National Stock Exchange of India Limited
Circular

Department: MEMBER SERVICE DEPARTMENT	
Download Ref No: NSE/MSD/57349	Date: June 28, 2023
Circular Ref. No: 40/2023	

All Members,

Sub: Connectivity - Consolidated Circular

The Exchange has been issuing various circulars from time to time for matters related to Connectivity. To provide users easy access to all applicable circulars at one place a consolidated circular is being issued considering circulars issued till June 15, 2023. This consolidated circular encapsulates regulations /instructions of all earlier circulars issued by the Exchange from time to time and new instructions as applicable to network connectivity for Members.

Trading members can access the trading system through POP (Point of Presence) based Leased Line connectivity and Colocation Facility. The circular covers all aspects of connectivity offering via POP (Point of Presence) based Leased Line connectivity. Circulars for matters pertaining to Colocation are to be referred to separately.

Members may note that the Exchange is not a telecom service provider, however, to facilitate its participants to procure connectivity to its trading system, the Exchange takes proactive steps to engage with last mile connectivity providers. It is solely a participant's responsibility to procure and maintain their network architecture, assets, and connectivity. Participants should note that National Stock Exchange of India Limited ("NSEIL") is only a facilitator of this service. Neither NSEIL nor its directors, managers, officers, employees, or agents guarantee the functioning of the connectivity, SLAs, uptime etc. ("Service") provided by Network Integrators and last mile telecom service providers. NSEIL does not warrant the accuracy, adequacy or completeness of this Service and expressly disclaims liability for errors or omissions in the same. NSEIL does not provide any warranty of an express or statutory nature including but not limited to the warranties of title, merchantability, fitness for a particular purpose or for any non-performance or interruption or incidents in relation to the Service. In no event, will NSEIL be liable for any damages, including without limitation direct or indirect, special, incidental, or consequential damages, losses or expenses arising in connection with this Service or use thereof or inability to use by any party, or in connection with any failure of performance, error, omission, interruption and/or defect. Participants shall take due care and shall solely be responsible for creating back-ups in terms of connectivity with NSEIL.

In case of any queries clarification relating subject, please contact us on 1800 266 0050 / msm@nse.co.in

National Stock Exchange of India Limited

For and on behalf of

National Stock Exchange of India Limited

Bharat Gandhi

Chief Manager

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List of rescinded sections or items of relevant circulars till June 15, 2023, with recissions

With the issuance of this Consolidated circular, the information contained in the below list shall stand rescinded.

Sr. No.	Subject	Download No.	Date
1	Migration from X.25 protocol to TCP/IP	NSE/memb/10833	13-Jun-08
2	Application for VSAT migration from X.25 protocol to TCP/IP protocol	NSE/memb/10884	25-Jun-08
3	TCP-IP migration - Discontinuation of X.25 protocol	NSE/memb/12380	8-May-09
4	IP Connectivity for Category T (Tick by Tick)	NSE/memb/13599	3-Dec-09
5	Revision in Annual recovery charges for A category (40 messages), S category (Connect2NSE) Leased Lines and VSAT	NSE/FA/21718	17-Sep-12
6	Charges for Multicast Tick by Tick	NSE/MEM/32599	17-Jun-16
7	Discontinuation of TCP based Tick by Tick market data broadcast	NSE/MEM/33698	25-Nov-16
8	Consolidated circular for Multi-Protocol Label Switching (MPLS) connectivity	NSE/MSD/35154	20-Jun-17
9	Discontinuation of Advance collection of service charges	NSE/MSD/36031	5-Oct-17
10	Multicast Tick by Tick (MTBT) data subscription (To be referred for discontinuation of charges for MTBT)	NSE/MSD/38190	29-Jun-18
11	Connectivity - Discontinuation of VSAT services	NSE/MSD/41769	2-Aug-19
12	Connectivity - Revised Bandwidth options	NSE/MSD/42272	1-Oct-19
13	Connectivity - Extension of VSAT Services	NSE/MSD/44024	31-Mar-20
14	Connectivity - Discontinuation of MPLS services	NSE/MSD/47321	12-Feb-21

Notwithstanding such rescission

a. Anything done or any action taken or purported to have been done or contemplated under the rescinded guidelines before the commencement of this Master Circular shall be deemed to have been done or taken or commenced or contemplated under the corresponding   provisions of the Master Circular or rescinded guidelines whichever is applicable.

b. The previous operation of the rescinded guidelines or anything duly done or suffered thereunder, any right, privilege, obligation or liability acquired, accrued or incurred under the rescinded guidelines, any penalty, incurred in respect of any violation committed against the rescinded guidelines, or any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation, liability, penalty as aforesaid, shall remain unaffected as if the rescinded guidelines have never been rescinded.

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CONSOLIDATED CIRCULAR

ON CONNECTIVITY

JUNE 2023

NATIONAL STOCK EXCHANGE OF INDIA LTD

National Stock Exchange of India Limited

Table of Content

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I. Leased Line [LL] Connectivity:

To provide access to all the Trading Members spread over a wide geographical area, the Exchange offers POP (Point of Presence) based Leased Line connectivity.

Leased lines are terrestrial based connectivity which connects member to the Exchange trading system via available point of presences (POPs - Point of Presences are established by the Exchange at different locations, to enable member connectivity to the Exchange trading server). NSE offers both conventional wired last mile connectivity (POP leased line from POP to members premises and/or rack in datacentre) and wireless last mile connectivity option. NSE uses TCP/IP protocol based Wide Area Network facilitating higher bandwidth, expansion, and scalability. Wireless option is available with the existing Telecom service providers for locations which are not feasible under wired connectivity.

Schematic representation of Leased line set up:
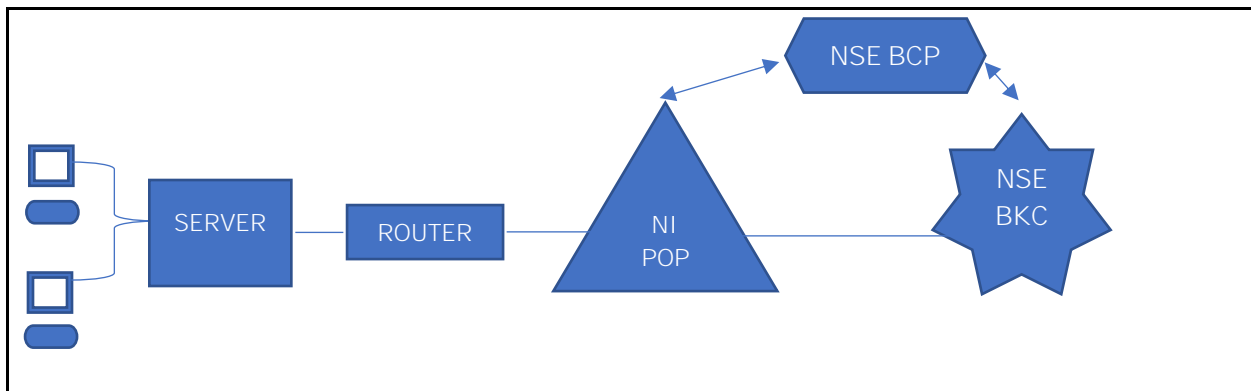
The above image is for representation purposes only. POP: Point of Presences. NI: Network Integrator (SIFY DIGITAL SERVICES LIMITED)

A. Network Integrator:

The Exchange has appointed SIFY Digital Service Limited as Network Integrator (NI) for implementing network with multiple service providers and various point of presence (POP) across India. A complete handbook on SIFY Digital Services Limited along with router specifications and procurement details are available in Annexure 1 - SIFY HANDBOOK

B. Point of presence (POPs) for POP based LL connectivity:

Point of Presences are established by the Exchange at different locations, to enable member connectivity to the Exchange trading server. Members traffic is seamlessly routed to either NSE primary site in Mumbai or the BCP site. Members can connect to various POP locations by choosing various connectivity options as defined in sections II A that are available through several service providers. Current List of POPs along with their complete address is provided in Annexure 5 - List of POPs.

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NOTE: POP networks are expanded to more cities to boost local connectivity. For the updated list of POPs, members can refer to circulars issued by the Exchange from time to time.

C. Telecom Service providers for Leased Line connectivity:

Currently following telecom service providers are available:

1. TATA Communications limited (TCL).
2. Bharati Airtel Limited.
3. MTNL/BSNL.
4. Tikona Infinet Private Limited.
5. Microscan Infocommtech Private Limited.

NOTE: New vendors are added by the Exchange subject to technical feasibility once eligibility criteria are fulfilled by the telecom service providers.

D. Types of service models under Leased Lines:

Members are provided two options of service models for their POP based LL connectivity:

a. MANAGED SERVICE MODEL.
b. SELF SERVICE MODEL.

a. Managed Service model:

a. Last mile leased lines (POP leased line from POP to members premises and/or rack in datacentre) shall be owned and procured by NSE.
b. Member shall procure last mile router (CPE) from NI as per rate card published by NSE.
c. NI shall manage Last mile leased lines and routers and SLA.

b. Self Service model:

a. Last mile leased lines (POP leased line from POP to members premises and/or rack in datacentre) shall be owned and procured by member.
b. Member shall procure last mile router (CPE) from open market adhering to technical specifications provided by NSE.
c. Members shall manage Last mile leased lines and routers and SLA.

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Salient features of aforesaid service models:

Service Feature	Managed Service Model	Self Service Model
Choice of last mile router can be made by member	X	√
Last mile leased line life cycle can be managed by member	X	√
Last mile reliability solution, monitoring and ensuring SLA for their uptime can be managed by member	X	√
Last mile leased line life cycle management by NI (Activation till Surrender)	√	X
NI co-ordination with TELCO service providers for last mile leased lines (Delivery, SLA, incidents, changes etc.)	√	X
Last mile leased line monitoring & management by NI	√	X
Last mile router supply, installation, configuration & testing by NI	√	X
Last mile router monitoring & management by NI	√	X
Last mile router troubleshooting & replacement (as per OEM SLA) by NI to restore connectivity. *OEM - Original Equipment Manufacturer	√	X
Onsite field support by NI for last mile leased lines & routers	√	X
NI Help Desk support	√	X
NI Network Operations Centre (NOC) services	√	X
NI ticketing system & update services	√	X
NI managed services portal/dashboard	√	X

NOTE:

a. Members may note that lines procured under a particular mode of service shall not be available for conversion to the other type of service model. In case members desires to switch mode of service, lines under existing mode of service will have to be surrendered and reapplied under the desired service model, leading to change of IP address.

b. Member must make sure at least one router per connectivity scenario is maintained.

c. Member needs to send a duly filled, signed & stamped Purchase order (PO) to Sify Technologies Ltd. on the email id <onsite_nse@sifycorp.com>.

d. Members are requested to refer Annexure 2 - Purchase order for Router Procurement for format of PO. In the purchase order, the delivery address must be same where the scenario/link is operational. Lead time for router delivery shall be 8 weeks post receipt of complete PO by Sify from member.

e. In case members already have the NSE specified router in stock; earlier procured from Sify, under managed service model and covered under Sify AMC/Warranty, the same can be used for the new connectivity; hence procurement of new router shall not be mandatory for new connectivity request under managed service model.

f. Members desirous of procuring a router from Sify for new managed service connectivity or redundancy in existing scenario shall have to provide the Purchase Order to SIFY Digital Service Limited directly.

g. In the purchase order, the router delivery address (member Location) must be same where the Leased line connectivity is applied.

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II. Connectivity application process:

  A. Various Connectivity Scenarios at NSE:

Trading Members are required to choose a scenario from the available categories to apply for connectivity.

Connectivity options at NSE							
Category	A	B	C	D	E	O*	S**
Interactive messages per second	40	100	200	400	1000	NA	NA
No. of user ids	50 User IDs per box for each segment					NA	NA
Bandwidth options	4 / 10 / 20 / 30 Mbps						
Market Data Broadcast	Yes (Only data – 5 deep 1 second frequency)						NA
Types of Scenarios	A2- Single Leased Line	B1- Single Leased Line	C1- Single Leased Line	D1- Single Leased Line	E1- Single Leased Line	O1- Single Leased Line	S1- Single Leased Line
	A4- Dual Leased Lines	B2- Dual Leased Lines	C2- Dual Leased Lines	D2- Dual Leased Lines	E2- Dual Leased Lines	O2- Dual Leased Lines	S2- Dual Leased Lines

*O - Separate connectivity for interactive and broadcast message.

S - **Members can access Connect2NSE platform using dedicated leased lines (category 'S'). The Exchange currently provides the members access to the following facilities through the Connect2NSE platform (homepage - http://www.connect2nse.com/):

  i.   NOTIS: Online trade details.
  ii.   EXTRANET: 24 X 7 file-based interface and other such ancillary services as provided through C2N portal.

  Members may refer to Annexure 4 - Application Form for accessing Connect2NSE platform for the application format to utilize existing Leased line used for trading to access Connect2NSE platform.

  NOTE:

1. Members are recommended to manage their bandwidth capacities and utilization appropriately to receive broadcast after considering their bandwidth utilization.
2. Members are advised to plan their interactive and broadcast configuration in such a way that at any point of time the bandwidth utilization is not more than 70% of the bandwidth capacity opted by the member.
3. The Exchange shall not be liable in any manner whatsoever including but not limited to any disconnection, excess bandwidth utilization, related latency issues, etc. which arises out of member's decisions on broadcast configuration amongst the various options available to members.

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4. The Exchange facilitates collection of all the **relevant charges through Member's Exchange Dues Account as** per billing policy by F&A/Commercial department updated from time to time for existing members.

5. New members not having exchange dues accounts are required to pay relevant charges via NEFT to exchange account.

6. Interest Free Security Deposits (IFSD) is not applicable for leased line and connectivity being offered under Exchange connectivity options.

7. For all the NSE billing related queries related to leased line, member may get in touch with finance and accounts team of the Exchange by emailing at dl-fa-mem@nse.co.in.

8. Members are requested to refer section IV of this circular to avail Multicast Tick by Tick Data (MTBT) over WAN network.

B. Documentation and processing fees:

a. Existing members can opt for availing additional leased line connectivity by submission of request for connectivity through ENIT portal. (Path: ENIT-NEW-TRADE > TCP IP Scenario > Activation).

Types of offices for connectivity installation:

i. Branch office of trading member
ii. Corporate office of trading member
iii. Registered office of trading member
iv. **Authorised person's office of trading member**
v. Third party data centre in India

b. New / Prospective Members not having access to ENIT interface are required to submit below physical documents to the Exchange for availing leased line connectivity for any service model:

i. Application form.
Format for same is available in Annexure 6 - Application form for new leased line connectivity (Member may also download document uploaded on website from the path: Trade > Platforms & Services > Connectivity & User Id > Application formats.
Website Link: https://www.nseindia.com/trade/platform-services-application-formats)

ii. Board resolution mentioning the authorized signatories, along with the specimen signature of the signatories.

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c. Application processing fees:

APPLICATION PROCESSING FEES COLLECTED BY THE EXCHANGE (LEASED LINE)			
Sr. No.	ACTIVITY	ACTIVATION	SHIFTING/ SURRENDER/ CANCELLATION
1	Single Scenario (A2, B1, C1, D1, E1, O1, S1)	₹ 2,000 + Taxes as applicable	₹ 1,000 + Taxes as applicable
2	Dual Scenario (A4, B2, C2, D2, E2, O2, S2)	₹ 4,000 + Taxes as applicable	₹ 2,000 + Taxes as applicable

#Payable at par.

NOTE:

i. For applications submitted by existing members through ENIT, the processing fees are collected from member's Exchange dues account.

ii. For new / prospective members, the processing fee can be paid through NEFT for which the Beneficiary account details are below:
> ➢ Beneficiary Name - NATIONAL STOCK EXCHANGE OF INDIA LIMITED
> ➢ Name of the Bank - HDFC BANK LIMITED
> ➢ Name of the Branch - FORT, MUMBAI
> ➢ Nature of Account -CURRENT
> ➢ Account number – 00990610000064
> ➢ IFSC Code of the Bank/Branch - HDFC0000060

New Members/Provisional members desirous of availing leased line connectivity through the Exchange are required to submit the above application set along with processing fees transaction details (UTR number) over email to msm@nse.co.in .

*For detailed information on how to apply for connectivity of third-party data centre, members are requested to refer section III of this circular.

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C. Leased Line connectivity costing:

LEASED LINE CONNECTIVITY COST (IN ₹)		
A)	ANNUAL RECOVERY CHARGES (NSE) + TAXES AS APPLICABLE	LEASED LINE
1	Category A (40 m.p.s)	50000
2	Category B (100 m.p.s)	250000
3	Category C (200 m.p.s)	500000
4	Category D (400 m.p.s)	1000000
5	Category E (1000 m.p.s)	2500000
6	Category O	Nil
7	Category S	50000
B)	ANNUAL RECOVERY CHARGES (SERVICE PROVIDER)	As per Service Provider Rate Chart. Members may refer Annexure 11 - Service provider rates chart.
C)	OTC CHARGES/INSTALLATION CHARGES	Note: Currently Exchange provides 4/10/20/30 Mbps as bandwidth options. 6 and 8 Mbps options have been discontinued vide circular NSE/MSD/42272.

NOTE:

a. All members are offered 2 category A Leased Lines (Managed/Self Service) with zero Annual Recovery Charges i.e., ARC (NSE).

b. If at any point of time after the commencement of these charges, the category of an eligible Zero ARC Connectivity is changed by the member, the NIL ARC provision shall be considered as forfeited and, on such Connectivity, no further rebate shall be available.

c. The rebates offered shall be at per connectivity basis and not on the total message subscription of a member. For e.g., a member not having any category A connectivity shall not be eligible for any rebate.

d. The Exchange reserves the right to modify the operational modalities of the above rebates at any point of time to ensure efficient management, accounting, and billing to members.

e. Members are requested to refer circular issued from time to time for any changes in fees / charges of Last mile connectivity (both wired and wireless)/Port charges as stated above for leased lines connectivity. For convenience the details are updated **under below path on website for member's ready** reference: Trade>Platforms & Services>Connectivity & User Id>Connectivity Costing (Non-Colo)

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D. Process flow for both leased line service models:
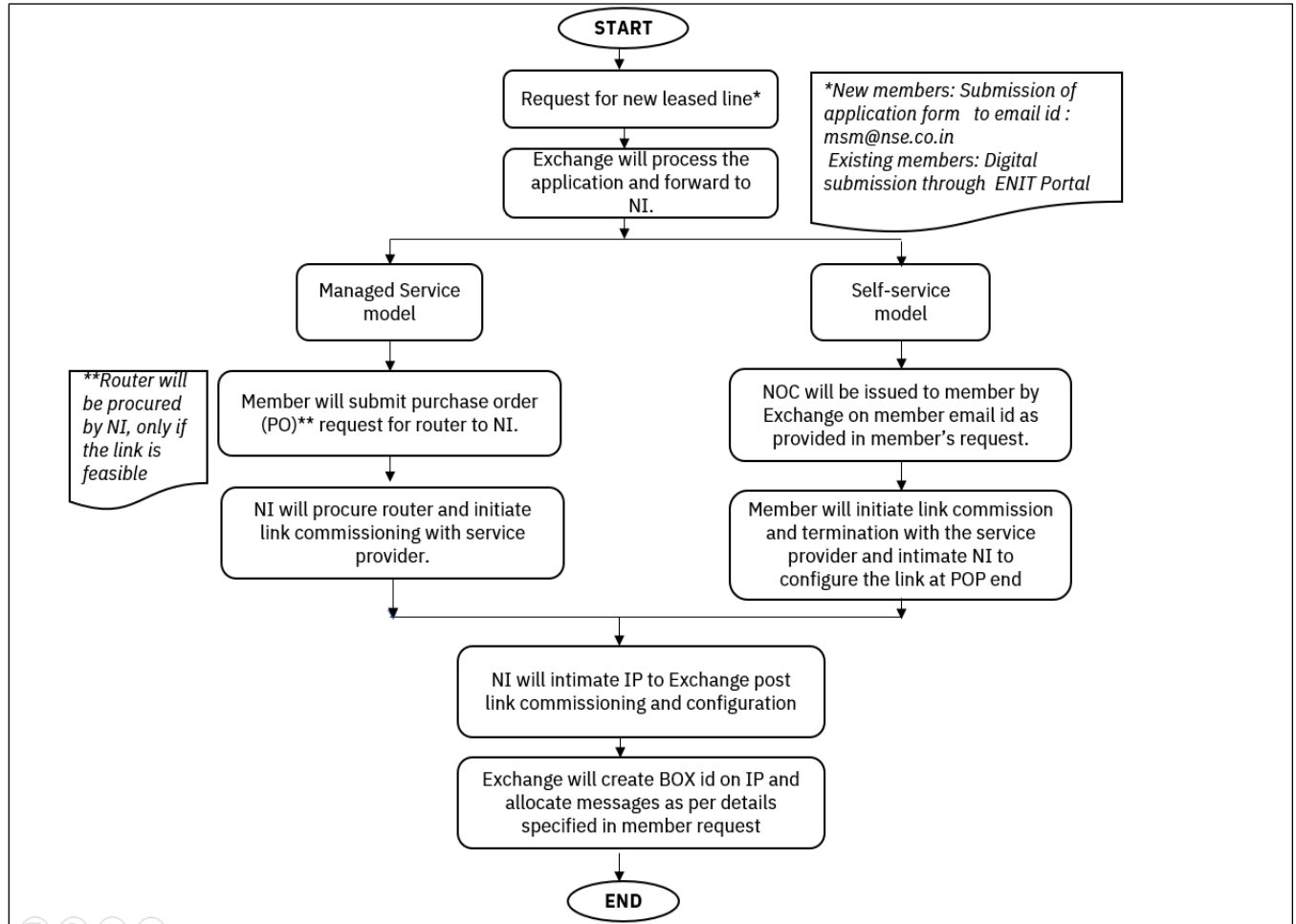
➢ The Leased Line connectivity applied by the member and the resultant IP provided by the Exchange once the link is commissioned is known as **"Mother IP".**

➢ Members can apply up to 9 child IPs under a given Mother IP. Members can place request for child IP activation/ surrender through ENIT via below modules:
  - NEW ENIT> Membership>TCP IP Scenario>Activation.
  - NEW ENIT> Membership>TCP IP Scenario>Surrender.

➢ 1 message rate and 50 users will be allotted upon box creation for the Child IP in all segments except Commodity derivatives (CO). Default message rate in CO segment is 120 messages and 50 users.

➢ Subsequently, members can change the message bifurcation across segments according to the scenario selected through ENIT path-NEW ENIT>Trade>User ID Request>Message/User rate change.

➢ For CM, FO and CD segments; member will be required to bifurcate the message rate across IPs (mother & child) and segments so that the total message rate does not exceed the total allotted capacity as per the scenario selected by the member.

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III. Connectivity at third party data centre:

Members can host Trading/ Internet/ Non-Neat Frontend servers at Third Party Data Centre / Service Provider **Site in lines with Branch office / Corporate office / Registered office /Authorised Person's office**. The members desirous of using this facility may apply through ENIT.

Members are required to submit the following documents in addition to the Connectivity application format to the Exchange:

1. Undertaking cum indemnity for hosting servers at Data centre.
2. No-objection Certificate from the Data Centre/Service Provider.

Document applicability as per instances:

SR. NO.	INSTANCE	DOCUMENT REQUIRED
1	Member applying for 1st connectivity on third party data centre.	Undertaking and NOC from the data centre
2	Member applying for additional connectivity on same third-party data centre location.	No additional documents required.
3	Member applying for additional connectivity on any other/New third-party data centre.	NOC from the data centre.

Members are requested to refer Annexure 7 - Application formats for applying connectivity at third party data centre for formats of the aforesaid documents. The above application formats are also available on NSE website link: https://www.nseindia.com/trade/platform-services-application-formats.

Process:

1. Member shall email scan copies of above-mentioned documents as applicable to msm@nse.co.in
2. Post confirmation from the Exchange regarding completeness and correctness of the documentation, member shall place request on ENIT portal. (Path: ENIT-NEW-TRADE>TCP IP Scenario>Activation Select office type as "Third party data centre")

3. Once confirmed, members are required to send the hardcopies of the Undertaking and NOC from the data centre to below mentioned address of the Exchange:

   Member Service Department,
   National Stock Exchange of India Ltd
   Exchange Plaza, Bandra-Kurla Complex
   Bandra (East)
   Mumbai – 400051

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4. Requests will be processed on receipt of originals at the concerned department. For requests, where original documents are not received within 5 days from the date of submission of request on ENIT portal, application will be rejected on ENIT portal and member will have to resubmit the request on ENIT portal.
5. Rest of the process for obtaining IP remains the same as explained in process flow chart in section II.D

IV. Multicast Tick-by-Tick data (TBT) feed on WAN:

a. Multicast Tick by Tick (MTBT) data subscription:

NSE MTBT (Multi cast Tick-by-Tick) data feed offered by the Exchange provides a detailed view of the entire order-book, which includes details relating to addition, modification and cancellation of orders and trades on a real-time basis. **A revised scheme of 'T' category line was implemented by the Exchange to facilitate** dissemination of MTBT data to members.

b. Procedure for availing connectivity for MTBT:

Members who seek to avail MTBT data can place requests **for the 'T' category service by applying to the** Exchange in the format specified as per Annexure 8 - Application formats for availing connectivity of MTBT.

For availing this facility members are advised to ensure the following:

1. Member should be registered in applicable segment.
2. Members shall be responsible for procuring the requisite lease line/s from telecom service providers enlisted by the Exchange for providing MTBT connectivity. The list of such connectivity service providers is as under:
   a. Tata Teleservices Maharashtra Ltd.
   b. Tata Communication Ltd.
   c. Bharti Airtel.
   d. Tikona Infinet Private Ltd.
   e. Microscan Infocommtech Private Ltd.
3. Per member only two physical lines shall be permitted. IP shall be provided to each of these links. Members shall be responsible to create redundancy on their own at their end.
4. Minimum bandwidth of the link for all segments except Commodity Derivatives segment shall be 1.5 Gbps.
5. Bandwidth of the link for Commodity Derivatives segment shall be between 2 to 20 Mbps.
6. **It shall be the member's responsibility to procure and maintain the connectivity required to take such** data. The member shall be solely responsible for choosing the vendor, quality of line, bandwidth etc. related to such connectivity. Any issues related to connectivity shall be the sole responsibility of the member.
7. Members shall be allowed to extend such MTBT connectivity in India at the following locations:
   a. Members registered / dealing / branch office / Authorised Person.
   b. Members owned/hired rack in a third-party data centre in India.

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8. For recovery of MTBT data members are requested to refer circulars issued by the Exchange on Market Data Broadcast from time to time.

9. **Members, who wish to surrender their 'T' category serv**ice, need to submit request to the Exchange in the format specified in Annexure 8 - Application formats for availing connectivity of MTBT.

10. **Minimum Technical Specifications required for member's routers for their 'T' category service are** mentioned as below:
    a. Should support Dynamic routing protocols like BGP/OSPF
    b. Should support multicast routing (PIM sparse mode)
    c. Should support WAN links.

11. Members may kindly note that there shall be no charges levied by the Exchange for availing MTBT data.

12. With respect to using the Exchange data, members may kindly take note of the Exchange circular NSE/MEM/26958 dated June 19, 2014. The Exchange data can b**e used by member's clients who are** registered for trading with the member on the Exchange in any segment.

V. Access to NSE-EBP Platform:

NSE-EBP (electronic bidding platform) is a web-based platform provided by the Exchange for issuance of debt securities on private placement basis through an Electronic Book Mechanism.

The Exchange in its continuous endeavour to provide better services introduced a facility for accessing NSE-EBP platform through POP based Leased Lines (LL) connectivity. As per the said facility participants can take leased line connectivity at their Main/ Branch/ Registered/ Corporate Offices and Third-Party data centres.

The participants intending to procure connectivity on Third Party Data Center must provide a "No Objection Certificate" (NOC) as per Annexure 9 - NOC from Third party data centre for accessing NSE-EBP along with an application as per Annexure 10 - Application form for availing connectivity for accessing NSE-EBP.

Modalities with respect to the same are cited as under:

A. Existing Members having POP connectivity.

1. Members having leased line connectivity with the Exchange via POP network for participating in other segments/products of the Exchange can access NSE-EBP through such links.
   Access Details: URL *: https://172.19.125.85, Port: 443

   *Note:

   Exception Error- Since the application would be accessed using the above URL instead of the domain name, the browser would give security exception. The user should ignore the exception and continue browsing the application.

2. The charges as applicable to normal leased lines as communicated by the Exchange from time to time shall continue to be applicable. However, there shall be no extra charge for using such links for

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participating in NSE-EBP. The Exchange reserves the right to levy charges, if any, in future after giving due notice in this regard.

B. NSE-EBP exclusive connectivity for registered participants.

1. NSE-EBP registered participants who are not members of the Exchange can procure Leased Lines under self-service mode to connect only to NSE-EBP. Access details are as specified above in point no A. 1.

2. NSE-EBP participants desirous of procuring such exclusive usage leased lines shall make an appropriate request to the Exchange at msm@nse.co.in via application form (signed and scanned copy) as prescribed in Annexure 10 - Application form for availing connectivity for accessing NSE-EBP. After verification, Exchange shall issue an NOC for termination of such link(s) at the POP. The applicant/applicants chosen vendor shall be required to coordinate with the Exchanges' Network Integrator (NI) for commissioning of such links. Aforesaid NOC will have to be submitted to NI for commissioning of such links. NI will inform the IP allotted against such request to the applicant for required configuration at their end.

3. Participants would be responsible to ensure that such connectivity is used for only accessing NSE-EBP.

4. Activities such as leased line shifting, bandwidth change etc. shall not be applicable for these links.

5. All modalities/terms/conditions applicable to connectivity, especially self-service mode shall be applicable to such links also.

6. Participants shall abide by all procedural formalities/requirements/compliances with respect to connectivity as prescribed by the Exchange from time to time.

7. Members can refer available list of POPs for accessing connectivity to EBP in Annexure 05 - LIST OF POPs for accessing connectivity to EBP. POP addresses and existing service providers are subject to change and termination with prior notification. In the event of such changes and/or termination participants shall have to abide by the notifications/directions of the Exchange from time to time.

8. Currently the Exchange shall not levy any application processing fees and/or usage charges on such facility. However, the Exchange reserves the right to levy such charges in future after giving due notice in this regard.

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VI. Various types of connectivity-based service requests offered by the Exchange:

Trading members can place connectivity related requests electronically through the interface provided by the Exchange i.e. ENIT (https://enit.nseindia.com/MemberPortal/) under path:

ENIT-NEW-TRADE>MEMBERSHIP>TCP IP SCENARIO

a. Types of requests: Existing members can place below requests through ENIT:

Sr. No.	Type of request	Particulars
1	Activation	New scenario activation: Request for installation of new leased line connectivity at locations permitted under trading member by the Exchange.
2	Activation of Child IP	Members can apply for up to 9 child IPs under a given Mother IP.
3	Shifting	Shifting is requested for shifting of leased line from one location to another location within same city.
4	Merge	Scenario merge is requested for combining or merging of two different single scenarios located at same address, into one dual scenario. While merging two single scenarios, member can retain IP of any one scenario of their choice.
5	Demerge	Demerging is requested for splitting of a dual scenario into two different single scenarios. On successful processing of scenario demerge requested one additional IP is assigned. This is applicable to both Managed Service Model and Self-Service model.
6	Category change	Category change is requested for changing Message Rate Category (Upgrading/ Downgrading) of existing scenario.
7	Change in bandwidth	Change in Bandwidth is requested for changing bandwidth (Upgrading/ Downgrading) of existing scenario.
8	Cancellation	Cancellation is requested for cancellation of Activation/Shifting/Merge-Demerge/Category change/Change in bandwidth requests pending at the Exchange end.
9	Surrender	Surrender is requested for surrender of commissioned Leased line connectivity.

b. Important notes to be considered while placing connectivity related service requests:

While placing connectivity requests members are advised to adhere to the following:

1. Members can submit new request for any type; only if no other connectivity request is pending for the specified IP.
2. Members to ensure that STD code and PINCODE are entered correctly for the given POP and address selected. If office type selected is data centre, members must ensure that complete data centre name is

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specified in the address field and complete address as specified in ENIT request should match exactly as per details mentioned in NOC provided by the data centre.

3. Shifting requests can be processed only for shifting within the same city.

4. Request for merger and demerger is accepted upon having met following conditions:

   a. Both merging connectivity shall have:

      i. Same bandwidth.

      ii. Same scenario.

      iii. Present at same location.

   b. Merging and demerging connectivity shall not have any pending connectivity requests on the same including those of request for child IPs.

   c. For demerging activity, member shall ensure availability of router as specified by NSE, procured from SIFY and have been covered under warranty/AMC with SIFY (earlier procured under managed service mode or new procurement)

   d. Members need to ensure that active user ids on the non-retained IP are shifted or disabled before placing the merger request. The request for shifted or disablement can be placed via ENIT on the following path:

      • Trade>User ID request>Shifting of Neat User ID

      • Trade>User ID request>Disable Neat User ID

   e. Members need to ensure that no user ids are multi locked on the non-retained IP before placing the merge request. The request for removal of multi lock of user ids can be placed via ENIT on the following path: Trade>User ID request>Multiple lock Neat User ID

5. Similarly for Surrender requests members need to ensure:

      i. Active user ids on the mentioned IP are disabled or shifted before placing surrender request.

      ii. No user ids should be multi-locked on the IP which is to be surrendered.

6. Requests submitted on or before 3:00 p.m. on a given working day shall be processed on best effort basis latest by T+2 working days.

7. For data centre activation, requests will be processed on receipt of originals at the concerned department. For requests, where original documents are not received within 5 days from the date of submission of request on ENIT portal, application will be rejected on ENIT portal and member will have to resubmit the request on ENIT portal.

8. Members are advised to note that, processing of activation/shifting/bandwidth upgradation, etc. is **dependent on technical feasibility at telecom service provider's end.**

VII. Redundancy Options available to members in terms of connectivity:

Securities Market is heavily dependent on IT and IT infrastructure. In the International markets, to ensure business continuity, generally, market participants have created and maintained a business continuity plan which broadly include identifying procedures relating to an emergency or significant business disruption that are designed to enable the member to meet its existing obligations to customers. Normally, at a broad level, the BCP/DR plan addresses areas like Data back-up and recovery (hard copy and electronic); mission critical systems, Financial and operational assessments, alternate communications between the member, its customers and employees, alternate back-up site from where business operations could resume and function,

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customer protective measures assuring prompt access to their funds and securities in the event that the member determines that it is unable to continue its business etc.

Breakdown of IT and IT infrastructure could occur from major disasters such as Earthquakes, floods, fires, riots, or war etc., which could lead to interruptions to business functions. In the past, there have been a couple of occurrences of such disasters in India due to which it is very essential that members should establish a well-defined Business Continuity/DR plan.

Also, given the current technology intensive environment in which Indian Securities market operates, to ensure stability in operations of Members so that interest of investors and market at large is not adversely impacted, members are advised to sufficiently review all potential risks along with its impact on the business and put in place BCP/DR plan.

The Exchange is cognizant of the importance of redundancy to ensure continuity of services. To this aim, the Exchange provides enough redundancy options to members for connectivity, enabling them to create network resiliencies. The Exchange, on multiple occasions, has communicated to members vide occasional circulars, the importance of having resilient connectivity systems to ensure continuity of services to their clients. Accordingly, Members are advised to deploy one or more of the below mentioned redundancy options to ensure continuity of their business operations as per their requirements.

Feature Name	Applicability
Multiple Dual Connectivity Options available	Members can create connectivity redundancy by following means: • Opting for new dual scenario connectivity like A4, B2, C2, D2, E2, S2, O2 etc. (Only one IP will be allotted for a scenario) OR • Merging of existing 2 single scenario connectivity e.g. A2 & A2 can be merged to create A4 scenario i.e., Dual Leased Line scenario. Path for placing request via ENIT: • For New Scenarios: ENIT > Membership > TCP IP scenario > Activation • For Merging existing scenarios: ENIT > Membership > TCP IP scenario > Merge
Point of Presence (POP) Redundancy	The Exchange provides Leased Lines through Multiple POP Location set up by the Exchange. Accordingly, members can create redundancy at POP level by following means: • By taking additional connectivity scenario from a different POP location • Opting for 2 different **POPs for Dual connectivity scenario's like A4, B2, C2, D2, E2, S2, O2** etc. In scenarios activation form, members are provided options to select different POPs in the 'POP' field.

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Telecom Service providers	The Exchange provides Leased Lines through Multiple service providers. Accordingly, members can create redundancy at service provider level by following means: • By taking additional connectivity scenario from a different Service provider • Opting for 2 different Service providers for Dual connectivity scenarios like A4, B2, C2, D2, E2, S2, O2 etc. In scenarios activation form, members are provided options to select different service providers in the Service providers' field.
Hardware i.e., Routers	The Exchange enables redundancy at router level. Members can choose to connect using single router / dual routers for creating router level redundancy. For dual link scenarios, members need to connect with NI for implementing the same.

➢ Members are advised to have alternate modes of connectivity.
➢ It is recommended that members are required to avail connectivity from two different service providers for redundancy.
➢ **Link feasibility at member's location is at the discretion of the service provider chosen by the member.**
➢ Link latency may vary depending upon service provider, geographical location, end-to-end path, media, distance, type of connectivity, etc.
➢ The Exchange always puts best efforts to deliver the connectivity to its members. However, the link delivery may vary / delay on account of service provider dependencies.
➢ Upon surrendering the link, member must return all applicable equipment owned by the telecom service provider post which commercials shall be settled by telecom service provider against surrendered link.

VIII. List of important circulars issued by the Exchange related to connectivity.

Members are requested to refer to the Exchange circulars issued and updated from time to time for detailed information on the subject. A non-comprehensive list of important circulars is shared below:

Date	Subject	Circular No.
June 09, 2023	Digital submission of TCP IP based requests for service providers, M/s - Tikona Infinet Private Limited and M/s - Microscan Infocommtech Private Limited	NSE/MSD/57036
June 05, 2023	Introduction of M/s - Tikona Infinet Private Limited and M/s - Microscan Infocommtech Private Limited as a Leased line connectivity telecom service provider.	NSE/MSD/56964
November 04,2022	Change in POP Address	NSE/MSD/54307
October 14, 2021	Connectivity – Introduction of dual link scenario in Self Service mode (zip)	NSE/MSD/49949

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July 15, 2021	Connectivity - Addition of POPs	NSE/MSD/48924
November 09, 2020	Connectivity- Access to NSE – EBP platform.	NSE/MSD/46303
October 14, 2020	Connectivity – Advisory	NSE/MSD/46025
September 15, 2020	Interactive Connectivity Parameters - Consolidated Circular	NSE/MSD/45703
July 28, 2020	Connectivity – List of POPs	NSE/MSD/45153
July 14, 2020	Connectivity - Access to NSE-EBP platform	NSE/MSD/45014
June 22, 2020	Connectivity – Revision in Annual Recovery Charges for messages	NSE/MSD/44718
June 15, 2020	Multicast Tick by Tick (MTBT) data in Commodity Segment	NSE/MSD/44650
December 02, 2019	Connectivity - Digital acceptance of request for category E and O	NSE/MSD/42801
November 08, 2019	Connectivity - Revised bandwidth options	NSE/MSD/42626
October 07, 2019	Connectivity - Rate chart for wireless	NSE/MSD/42315
August 30, 2019	Connectivity - Introduction of category "E" and "O" (pdf)	NSE/MSD/42014
August 29, 2019	Connectivity - Merge and Demerge requests for POP connectivity (zip)	NSE/MSD/41993
March 20, 2019	Connectivity - POP network changes - Surrender of Leased line (pdf)	NSE/MSD/40487
January 31, 2019	Connectivity - POP network changes (zip)	NSE/MSD/40093
January 22, 2019	Interactive Connectivity Parameters - Consolidated Circular	NSE/MSD/40008
November 27, 2018	POP network changes - Commissioning date for billing	NSE/MSD/39490
November 09, 2018	POP network changes - Guide on Sify services (zip)	NSE/MSD/39377
August 30, 2018	New ENIT - Connectivity modules (pdf)	NSE/MSD/38740
June 29, 2018	POP network changes - Process for procurement of new Leased Lines (LL) (zip)	NSE/MSD/38195
June 29, 2018	Multicast Tick by Tick (MTBT) data subscription (zip)	NSE/MSD/38190
May 23, 2018	POP network changes - Service Mode selection (zip)	NSE/MSD/37818
April 19, 2018	Discontinuation of A3 & A5 scenario	NSE/MSD/37567
October 05, 2017	Discontinuation of Advance collection of service charges (pdf)	NSE/MSD/36031
August 31, 2016	Leased Line Connectivity - Consolidation of POPs	NSE/MEM/33115
November 09, 2015	Higher Bandwidth Leased Lines (4, 6, 8, 10 & 20 Mbps) (zip)	NSE/MEM/31097

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July 24, 2014	Introduction of Dual Router facility for A4, B2, C2, S2 and T2 scenarios (zip)	NSE/MEM/27210
September 14, 2012	Acceptance of connectivity application for Merge, Demerge, Change in Scenario and Cancellation through ENIT	NSE/MEM/21713
July 18, 2012	Introduction of Multiprotocol Label Switching (MPLS) based connectivity for trading purpose	NSE/MEM/21297
December 03,2009	IP Connectivity for Category T (Tick by Tick)	NSE/memb/13599
November 25,2009	IP Connectivity for Category C (200 Messages/per second)	NSE/MEMB/13539
December 31, 2008	Business Continuity Planning (BCP)/Disaster Recovery (DR) (htm)	NSE/MEMB/11832
July 25, 2008	Application forms for connectivity on TCP/IP Technology	NSE/memb/11042
June 13, 2008	Migration from X.25 protocol to TCP/IP	NSE/memb/10833
February 28, 2008	Connectivity at Third Party Data Centre/Service Provider Location. (zip)	NSE/MEMB/10365

This consolidated circular is a compilation of relevant circulars issued which are operational as on date of this circular. Efforts have been made to suitably incorporate and update the applicable provisions of existing circulars as per above table.